



Infectious Disease Epidemiology Report

Lyme Disease Surveillance Report- Maine, 2005



Introduction

Lyme disease is a tickborne disease with variable dermatologic, rheumatologic, neurologic, and cardiac manifestations. The most reliable early clinical indication for the disease is an initial skin lesion commonly referred to as the "bull's-eye" rash or erythema migrans, which occurs in 70% to 80% of cases within a month after a tick bite. Untreated infections can lead to late manifestations in the joints, heart, and nervous system. Examples of these late manifestations include: arthritis characterized by recurrent, brief attacks of joint swelling; lymphocytic meningitis; cranial neuritis (such as Bell's palsy); encephalitis; and second or third degree atrioventricular block.

Methods

Lyme disease is reportable in Maine. For surveillance purposes, Lyme disease is defined as:

- A person with erythema migrans; or
- A person with at least one of the late manifestations mentioned above and laboratory confirmation of infection. [Guidance on lab tests can be found at: www.MainePublicHealth.gov]

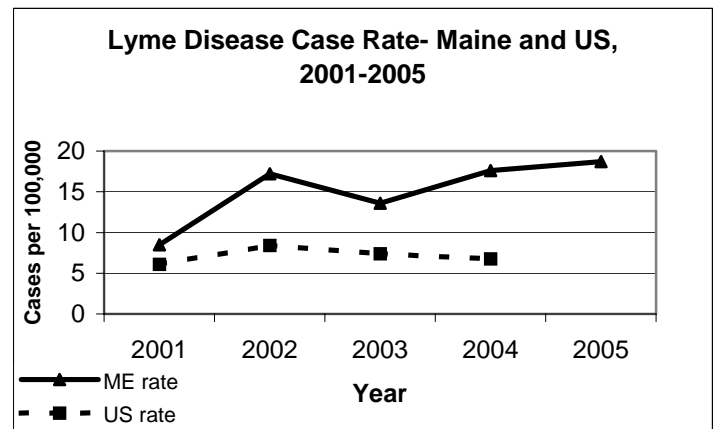
The Maine CDC investigates and collects surveillance data on reports of Lyme disease. Data presented in this report reflect only those reports that meet the case definition. Maine-specific data were extracted from the National Electronic Telecommunications System for Surveillance (NETSS), a disease-reporting database, and also from a local database maintained by the Infectious Disease Epidemiology Program. Population denominators are based on 2005 estimates from the Census Bureau.

Results

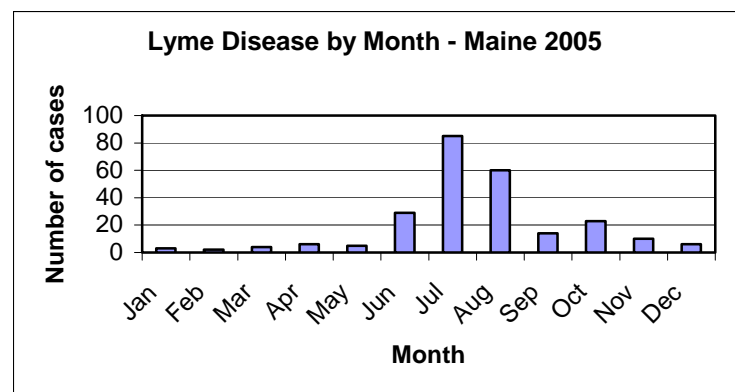
During 2005, a total of 247 confirmed cases of Lyme disease were reported to the Maine CDC. This represents an overall case rate of 18.7 cases

per 100,000 population. Consistent with previous years' state and national level data, physician-diagnosed erythema migrans was reported in nearly 74% of cases. Fifty-six percent of the cases were male. The median age was 46 years, with a range of 3 to 90 years.

Five-Year Trend: The number of Lyme disease cases reported in Maine during 2005 (and its corresponding case rate) is the highest in the last five years. Since 2003, the case rate has been steadily increasing in Maine while the national case rate decreased for the second time in a row in 2004 (the most recent year for which data is available).



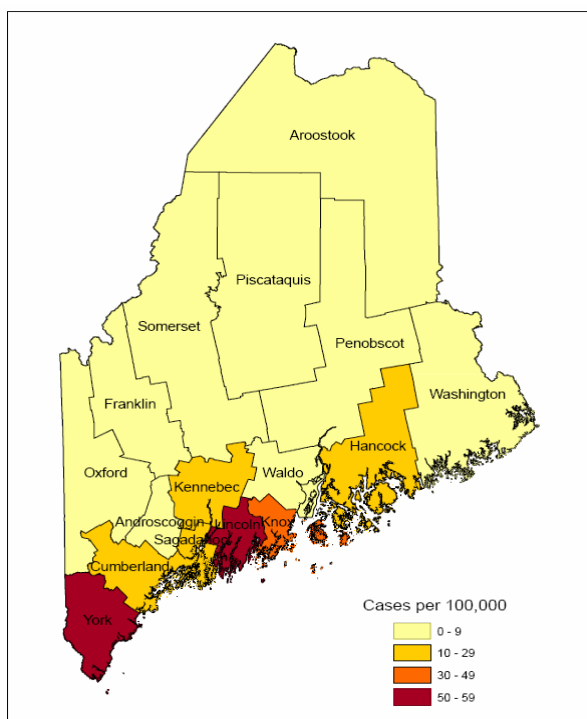
Distribution By Month: In 2005, peak incidence of Lyme disease occurred during July and August.



Eighty-five cases of Lyme disease were reported in July versus 60, 29 and 23 cases in August, June and October, respectively.

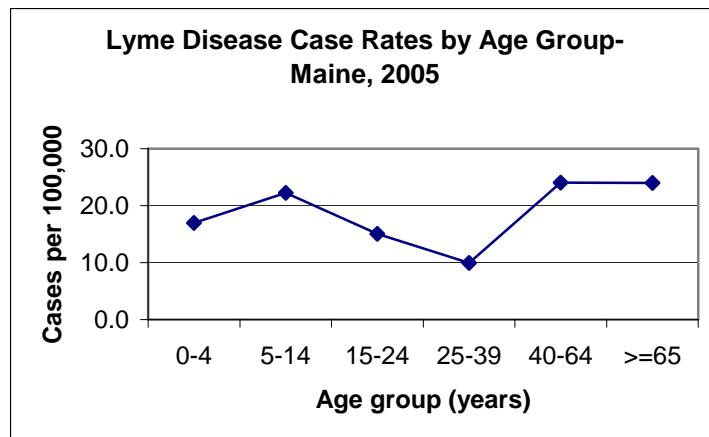
Distribution By County: Lyme disease was reported in 13 counties in Maine in 2005. Franklin, Piscataquis, and Washington counties did not report any confirmed case of Lyme disease. York County accounted for the largest number of cases with 100, while Lincoln County reported the highest case rate (53.9 per 100,000 population).

Lyme Disease Case Rates by County- Maine, 2005



Source: Maine Medical Center Research Institute

Case Rates By Age Group: Age appears to be an important risk factor for Lyme disease in Maine. The highest case rate (24 per 100,000) was observed among persons in age groups 40 to 64 years and 65 years or older. Another high-risk group was children between 5 and 14 years of age. Persons between the ages of 25 and 39 years had the lowest case rate.



Discussion and Recommendations

In general, the incidence of Lyme disease reported in Maine has been increasing in the last five years. The observed trend may simply be an artifact of increased awareness by the public or due to improved reporting and case detection by health care providers and State public health authorities, respectively. However, this trend may also reflect a true rise in cases.

The risk of Lyme disease can be reduced by avoiding tick-infested areas, using insect repellents containing DEET (for skin and clothing), permethrin (for clothing only), or picaridin, and checking for ticks after returning from the tick-infested areas, and through landscape modification.

Prepared by:
 Anthony K. Yartel, MPH
Anthony.yartel@maine.gov
<http://www.MainePublicHealth.gov>